

POLYAKOVA, T.F.

Role of vegetative nuclei in the development of male gametophytes.
TSitologiia 3 no.3:254-265 My-Je '61: (MIRA 14:6)

1. Laboratoriya tsitologii kafedry genetiki Leningradskogo
universiteta.
(CELL NUCLEI) (POLLEN)

S/137/61/COO/012/094/149
A006/A101

AUTHORS: Livshits, L.S., Polyakova, R.B.

TITLE: Investigating weld joints of grade 1X18H12T (1Kh18N12T) austenite steel steam-conducting pipes

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 13-14, abstract 12E73 ("Elektr. stantsii", 1961, no. 7, 21 - 25)

TEXT: To evaluate the properties of 1Kh18N12T weld joints produced with ЦТ-15 (TsT-15), КТН-5 (KTI-5) and ЭА-400/10 (EA-400/10) electrodes, the authors investigated the technological properties of the electrodes, hot-crack sensitivity during welding, mechanical properties and microstructure of the weld metal and the weld-adjacent metal. The investigations were performed on welded specimens immediately after welding without heat treatment; after austenization; aging; and austenization and aging. The experiments yielded the following results: 1) The best combination of properties is offered by weld joints produced with KTI-5 electrodes. When using these electrodes for welding, there is the least danger of hot crack formation, the brittleness of the weld is lower than in joints welded with TsT-15 electrodes, and heat resistance of the weld joint

Card 1/2

Investigating weld joints ...

S/137/61/000/012/094/149
A006/A101

after extended heating has a maximum value. 2) Austenization promotes homogenization of the weld joint structure and improves the plastic properties. However, extended heating after austenization impairs the properties; moreover, on austenized butts the condition of the fusion zone is strongly impaired so that during long-lasting thermal tests, failures prevail in this zone without plastic deformation. 3) It was found that weak areas exist in both not heat-treated and austenized weld joints. Therefore studies must be continued in the following directions in order to discover the means of further improving the quality of weld joints on 1Kh18N12T steel to raise the reliability of steam conductors: a) investigating the causes of impaired base metal properties (extended heat resistance) in the weld-adjacent zone; b) investigating the causes of impaired properties of welds and fusion zones during prolonged heating of austenized weld joints.

V. Tarisova

[Abstracter's note: Complete translation]

Card 2/2

POLYAKOVA, R.B., inzh.

Butt welding of high pressure piping ceramic liners. Energ. stroi.
no.1:102-106 '59. (MIRA 13:2)

1.Moskovskiy filial instituta "Orgenergostroy".
(Pipe, Steel--Welding)

GOTLIB, Ye.A., inzh.; POLYAKOVA, R.B.k inzh.; YASHCHENKO, Ya.V., inzh.

Welding of pipes made with EI-695R and EP-17 make austenite steels.
Teploenergetika 9 no.11:63-67 N '62. (MIRA 15:10)

1. Yuzhteploenergomontazh, Vsesoyuznyy institut po proyektirovaniyu
organizatsiy energeticheskogo stroitel'stva i Kiyevskiy politekhnicheskoy institut.

(Pipe, Steel--Welding)

AKHMEDZHANOV, M.Yu.; POLYAKOVA, R.N.; KOLOSOVA, S.N.

Effect of meteorological conditions and the seasons on the incidence of acute cardiovascular diseases. Vop.kur., fizioter.i lech.fiz.kul't. 27 no.2:109-111 Mr-Apr '62. (MIRA 15:11)

1. Iz terapevticheskoy kliniki (zav. - prof. S.R.Tatevosov) Instituta imeni I.M.Sechenova v Yalte.

(WEATHER--MENTAL AND PHYSIOLOGICAL EFFECTS)
(CARDIOVASCULAR SYSTEM--DISEASES)

POLYAKOVA, R. S.

POLYAKOVA, R. S.: "Age aspects of the brain structure of certain mammals (rodents) in connection with the conditions under which they are kept and their motor activity." Min Education RSFSR. Leningrad State Pedagogical Inst. Leningrad, 1956.
(Dissertation for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya letopis', No 23, 1956

FAL'KEVICH, A.S., inzh.; POLYAKOVA, R.B.

Investigating parameters of the gas pressure pipe welding
process. Trudy VNIISTroinefti no.3:26-48 '52. (MIRA 12:2)
(Gas welding and cutting) (Pipe, Steel--Welding)

21755

MELENIN, V. A.; RUDNITSKIY, L. A. i ILYIN ON, L. S.

Splavakh palladiya s vol'framom. Isslediya sektora plating i durgikh blagorod. Metallov (IM - T obshchey i neorgan. Khimii im. Kurnakova), Vyr. 23, 1949, s. 101-03.

SO: Ictopis' Zhurnal'nykh Statoy, No. 20, Moskva, 1949

POLYAKOVA, R.S.

21433 NEMILOV, V.A.: RUDNITSKIY, A.A.: i POLYAKOVA, R.S.

Issledovanie sistemy platina--serebro--palladiy.
Izvestiya Sektora platiny i drugikh blagorod.
Metallov (In - t ob shchey i neorgan. khimii im. Kurnakova),
Vyp. 23, 1949, s. 104 - 15 Bibliogr: 11 NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

POLYAKOVA, R. S.

35307. O spavakh Palladiya S Med'yu. Izvestiya Sektora Platiny i Drugikh ^Ulagorod. Metallov (In-T Ovshch Neopgan. Khimii Im. Kurnakova), Vyp. 24, 1949, S. 26-34.-^Uibliogr: 16 Nazv.

So: Letopis'Zhornal'nykh Statey, Vol. 34, Moskva, 1949

POLYAKOVA, R. S.

35306. Issledovanie "istemy Palladiy-Zoloto- Med'. Izvestiya Sektora
Platiny i Drugikh B lagorod. Metallov (In-T Ovshch i Neo Pgan.Khimi
Im. Kurnakova), Vyp. 24, 1949, . 35-31.-ibliogr: s. 51

SO: Letopis 'Zhurnal 'nykh Statey, Vol. 34, Moskva, 1949

ПОЛИАКОВА, Р. С.

RUDNITSKIY, A. A.; POLYAKOVA, R. S.

USSR (600)

Alloys

Alloys of palladium and rhodium. Izv. Sekts. plat. i blag. met., No. 25, 1950.

Monthly List of Russian Accessions. Library of Congress, April 1952. UNCLASSIFIED.

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Metallurgy and Metallography

Investigation of the system, palladium-platinum-rhodium. V. A. Nemilov, A. A. Rudnitskii, and R. S. Polyakova. *Izvest. Sektora Platin i Drug. Blagorod. Metal. Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 26, 16-24(1951).—The ternary system was studied to det. the effect of varying the compn. on Brinell hardness, microstructure, elec. resistance and its temp. coeff., and particularly, the effect on resistance to rupture and the thermal e.m.f. Isograms are presented showing lines of const. hardness, elec. resistance, and the temp. coeff. of elec. resistance (α_{20-100}).
J. R. Behrman

3

POLYAKOVA, R-S.

Alloys of platinum with rhenium. A. A. Rudnitskii and R. S. Polyakova. Izvest. Sektora Platin i Drug. Blagorod. Metallov i Neorg. Khim., Akad. Nauk S.S.S.R. No. 27, 224 (1962).—Brinell hardness, elec. resistance, thermoelec. e.m.f., and microstructure were studied on alloys contg. up to 16 wt. % Re. Above this compn. the m.p. was too high for the melting technique used. Refined Pt and Re were reduced from soln., the sponge Pt was mixed with powd. Re, and the pressed briquets were melted in vacuo in corundum crucibles in a high-frequency furnace. To improve the quality of the alloys they were remelted in air with some loss of Re. After grinding, the alloys were sealed in quartz tubes under vacuum, annealed 4 days at 1000°, and slowly cooled during 3 d. s. The Brinell hardness (250 kg., 10 mm. ball) was: 0.12% Re, 27 kg./sq. mm.; 4.20, 107; 5.98, 110; 6.69, 113; 16.04, 180. Microstructures, etched with concd. aqua regia, showed solid solns. up to 6.69% Re. The 16.04% Re alloy may not have been annealed adequately since the grain boundaries were outlined. Probably all of the alloys were solid solns. Elec. resistivity was detd. on alloys up to 6.69% Re, which could be hot-forged, rolled, and drawn into wire. Prior annealing was at 1000°.

The values at 25 and 100° were, resp.: 0.12% Re, 14.27, 17.14 micro-ohm cm.; 4.20, 33.65, 38.06; 5.98, —, —; 6.69, 40.91, 43.04. The temp. coeff. of resistivity fell with increase in Re. Thermoelec. e.m.f. of the wires was detd. by making a couple with spectroscopically pure Pt and welding this couple to a calibrated Pt-Rh couple. The e.m.f. data plotted as a relatively straight curve against temp., and the values at 1000° were: 0.12% Re, 7.55 mv.; 4.20, 23.61; 5.98, —; 6.69, 24.90. Alloys were analyzed for Pt by the calomel method, and Re was detd. by difference. The alloy contg. 5.98% Re lost the largest proportion of Re during remelting. Its original mixt. was 10% Re while the 6.69% Re alloy was only 8%. The 5.98% Re alloy could not be hot-worked.

A. G. Gay

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POLYAKOVA, R-S.

18 18
 ✓ Polymorphic Transformations of Rhodium. A. A. Rudnik,
 R. S. Polyakova, and I. I. Tyurin (*Izvest. Akad. Nauk S.S.S.R.*, 1955, (28), 183-189). [In Russian].
 Measurements of the thermo-e.m.f. of Rh made earlier by
 R. (ibid., 1952, (27), 227) gave inconclusive results owing to the
 small changes of the thermo-e.m.f. at the transformation
 point. In the present detn. of temp. of polymorphic trans-
 formations of Rh the authors used a pyrometer developed by
 Kurnakov in which the thermo-e.m.f. is recorded by three
 mirror galvanometers. Two identical Pt/Pt-Rh thermo-
 couples were soldered to the ends of a Rh rod. Galvanometer
 1 registered the temp. of the solder; 2—the thermo-e.m.f. of
 Rh coupled with Pt, and 3—the thermo-e.m.f. of Rh coupled
 with the Pt-Rh alloy. Unlike the measurement of integral
 thermo-e.m.f. which gives only approx. results, the
 differential method adopted here, with the use of K.'s pyro-
 meter permits of a precise detn. of the character of the change
 in the curve of the thermo-e.m.f., and indicates the transforma-
 tion point to within $\pm 5^\circ \text{C}$.—Z. N. P.

RG
 KLD
 garb

POLYAKOVA, R. S.

POLYAKOVA, R. S. "Diagrams of states of the palladium-ruthenium and platinum-palladium-ruthenium systems." Acad Sci USSR. Inst of Metallurgy imeni A. A. Baykov. Moscow, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCE).

SO.: Knizhnaya letopis', No. 25, 1956.

POLYAKOVA, R.S.

137-58-2-3910

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 233 (USSR)

AUTHORS: Kornilov, I. I., Polyakova, R.S.

TITLE: An Investigation of the Nb-Mo System (Issledovaniye sistemy Nb-Mo)

PERIODICAL: Tr. In-ta metallurgii AN SSSR, 1957, Nr 2, pp 149-153

ABSTRACT: Specimens were prepared from powdered Nb (98.7%) and Mo (99.9%) by compacting briquettes and sintering or fusing them. From the data of thermic analysis (determination of the temperature of the solidus and recording of heating curves), a study was made of microstructure, microhardness, specific gravity, electrical resistance, and its temperature coefficient. A diagram of the fusibility of the Nb-Mo system was plotted showing crystallization of a continuous series of solid solutions with a flat minimum in the 20-30% Mo interval.

1. Molybdenum--niobium systems--Properties

R. M.

Card 1/1

POLYAKOVA, R.S.

27
/ Physical properties of ruthenium. A. A. Rudnik and R. S. Polyakova. *Zhur. Neorg. Khim.* 2, 2768-69 (1967). The phys. properties of metallic Ru were studied. The sp. gr. was 11.90 g./cc. The microstructure was studied by etching the polished surface by electrolysis in 10% oxalic acid. The lattice parameters were detd. as $a = 2.7016$, $c = 4.2760$ Å., $c/a = 1.5828$. The Brinnell hardness was 163.6 kg./sq. mm. The hardness did not change on heating at 1200° in a vacuum at 15 hrs. The sp. elec. resistance and its temp. coeff. were detd. for tempered and quenched samples. At 25° the values were 7.427 and 7.657, resp. and 9.262 and 9.574 at 100°. The thermoelec. properties of Ru were detd. I. Kovtar Leach

Distr: 4EhJ/4E3d/4E3c

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that a commission for coordination be attached to the Institute for Metallurgy.

AVAILABLE: Library of Congress

Card 1/1

APPROVED FOR RELEASE: 07/13/2001

78-3-4-8/38

AUTHORS: Kornilov, I. I., Polyakova, R. S.

TITLE: The Phase Diagram of the System Titanium-Niobium-Molybdenum
(Diagramma sostoyaniya troynoy sistemy titan-niobiy-molibden)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 4, pp. 879-888 (USSR)

ABSTRACT: The aim of this paper is the investigation of the composition of the components in the three-component system titanium-niobium-molybdenum as well as the construction of the phase diagram of this system.
The alloys were investigated by the following methods: differential analysis, structure determination, determination of hardness, determination of electric resistivity and of its temperature coefficient.
Based on these investigations the authors found that
1) the components niobium and tantalum with β -titanium form continuous solid solutions with volume-centered cubic lattice in the polymorphous transition from $\alpha \rightleftharpoons \beta$ -titanium;
2) the temperature of the polymorphous transition from $\alpha \rightleftharpoons \beta$ -titanium decreases gradually with the increase of the niobium- and molybdenum concentration!
3) the properties of hardness and of specific electric re-

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78-3-4-8/38

The Phase Diagram of the System Titanium-Niobium-Molybdenum

sistance in the ternary system in hardened and annealed state change according to the melting curve in the field of ternary solid solutions;

4) the boundary of the transition from $\alpha + \beta \rightarrow \beta$ of the solid solutions does not influence the hardness and the electric conductivity of the alloys;

5) there is always a small field of α -solid solution on the basis of titanium in the titanium corner bordering the two-phase range $\alpha + \beta$. The range $\alpha + \beta$ with the increase of the content of niobium and molybdenum passes over into the ternary solid solution of β -titanium.

A phase diagram of the system titanium-niobium-molybdenum was found and constructed in hardened and annealed state. There are 11 figures, 3 tables, and 10 references, 6 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR
(Metallurgical Institute imeni A. A. Baykov, AS USSR)

SUBMITTED: June 25, 1957

Card 2/2

ACC NR: AT603442

(A)

SOURCE CODE: UR/0000/66/000/000/0104/0109

AUTHOR: Pryakhina, L. I.; Polyakova, R. S.

ORG: none

TITLE: Metal chemistry of tungsten

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 104-109

TOPIC TAGS: tungsten, tungsten containing alloy, solid solution, physical chemistry property

ABSTRACT: The article is a review of the properties of tungsten and its alloys, based entirely on literature data; it contains no experimental data. The formation of solid solutions of tungsten and other elements is determined by the following metallochemical properties: 1) the closeness of the chemical properties of the metals which is determined by their position in the periodic table and in the electronegative series of the elements; 2) for formation of continuous solid solutions, the difference in the atomic radius of the elements should not exceed approximately 10%; 3) the formation of continuous solid solutions requires isomorphism of the crystal structure of the components. The article proceeds to a classification of the elements of the periodic

Card 1/2

POLYAKOVA, R.S.; SOKOLOV, A.S.

Structure of locomotor organs in the flying squirrel (*Pteromys
volans* L.) as related to its gliding flight. "Zool. zhur. 44 (MIRA 18:20)
no.6:902-916 '65.

1. Zoologicheskii institut AN SSSR Leningrad.

KORNILOV, I.I.; POLYAKOVA, R.S.

Quaternary alloys of the Nb - Ti - Σ Mo, V cross section.
(ratio: Mo:V 3;1). Zhur. neorg. khim. 9 no.10:2416-2423
O '64. (MIRA 17:12)

L 12365-65 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/EWP(t)/EWP(b) Pu-4 JD/JG/MLK
 ACCESSION NR: AT4046211 S/0000/63/000/000/0010/0015

AUTHOR: Polyakova, R. S. (Moscow)

TITLE: Investigation of the hot hardness of Nb-Mo, Nb-Mo-Ti, and Nb-Mo-Ti-V alloys

SOURCE: Yubileynaya konferentsiya po fiziko-khimicheskomu analizu. Novosibirsk, 1960. Fiziko-khimicheskiy analiz (Physicochemical analysis); trudy* konferentsii. Novosibirsk, Izd-vo Sib. otd. AN SSSR, 1963, 10-15

TOPIC TAGS: niobium molybdenum alloy, niobium molybdenum titanium alloy, vanadium containing alloy, alloy hot hardness

ABSTRACT: The structure and hot hardness of binary, ternary, and quaternary Nb-base alloys containing 0.625-67.5% Mo, 0-67.5% Ti, and 0-33.75%V were studied. The alloys were melted in a tungsten-electrode arc furnace and homogenized at 1800C for 50 hr. It was found that annealed and slowly cooled alloys have a single-phase structure, except titanium-rich alloys, which have two-phase structures consisting of two solid solutions. All the alloys quenched

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L 12365-65

ACCESSION NR: AT4046211

from 1100C have a single-phase polyhedral structure. The hardness of unalloyed niobium decreases sharply with increasing temperature from 140 kg/mm² at room temperature to 10 kg/mm² at 1000C. Alloying with molybdenum substantially increases the hardness of niobium; the alloy with 10.20% Mo has a hardness of 250 kg/mm² at 100C and 200 kg/mm² at 1000C. In Nb-Mo-Ti alloys, the hardness increases with increased Mo and Ti content. However, titanium-rich alloys soften rapidly with increasing temperature. Alloys with 20% Ti (Ti: Mo=3:1) maintain a high hardness up to 1000C. Softening of titanium-rich alloys should be attributed to titanium polymorphism. The hardness of Nb-Mo-Ti-V alloys follows the same pattern as that of the ternary alloys; for example, titanium-rich alloys soften at high temperatures, but alloys with a Ti : Mo ratio of 3:1 have high hardness at temperatures up to 1000C. Some Nb-Mo-Ti-V alloys have a hardness of 300 kg/mm² at 1000C, which indicates that a niobium-base solid solution is strengthened by additional alloying with elements entering the solid solution. Orig. art. has: 6 figures and 1 table.

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I 13619-65 SMT(m)/SPF(n)-2/EWP(b) Pa-4 JD/JG
 ACCESSION NR: AP4046452 8/0078/64/009/010/2416/2423

AUTHOR: Kornilov, I. I.; Poyakova, R. S.

TITLE: Quaternary Nb-Ti-(LMoV) alloys (at the ratio Mo/V = 3/1)

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 10, 1964, 2416-2423

TOPIC TAGS: niobium base alloy, titanium base alloy, molybdenum base alloy, titanium containing alloy, molybdenum containing alloy, niobium containing alloy, vanadium containing alloy

ABSTRACT: Three series of niobium-titanium-molybdenum-vanadium alloys with compositions corresponding to sections I, II, and III of the composition tetrahedron (see Fig. 1 of the Enclosure) and with an Mo/V ratio of 3/1 were investigated in an effort to determine the character of the chemical interaction of components and the suitability of the alloys for practical applications. The pattern of solidus temperature-composition curves for the alloys tested indicated that all the alloys tested solidify as solid solutions. This was confirmed

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ACCESSION NR: AP4046452

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by microscopic examination and by x-ray diffraction patterns; the latter showed that the solid solution has a bcc structure. In titanium-rich alloys the high-temperature phase decomposes with decreasing temperature. These alloys have a two-phase structure at room temperature; alloys located in close proximity to the titanium corner have a single-phase structure and consist of α -titanium-base solid solutions. The microhardness of alloys increases with increasing alloying. Alloys of section III have the highest hardness. For instance, an alloy containing 10% Nb, 22.5% Ti, 50.625% Mo, and 16.875% V has a hardness of 500 kg/mm² at room temperature and 300 kg/mm² at 1000°C. Alloys of section I have the highest resistivity, up to 70 mohm-cm in an alloy containing 10% Nb, 67.5% Ti, 16.875% Mo and 5.625% V. Orig. art. has: 1 table and 10 figures.

ASSOCIATION: none

SUBMITTED: 28Sep63

NO REF SOV: 008

ENCL: 01

OTHER: 004

SUB CODE: MM

ATD PRESS: 3129

Card 2/3

L 13619-65

ACCESSION NR: AP4046452

ENCLOSURE: 01

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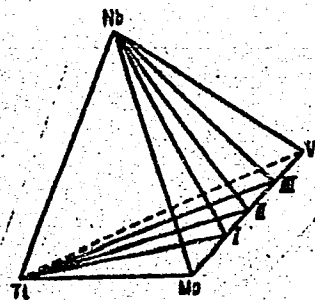


Fig. 1. Composition tetrahedron
of the Nb-Mo-Ti-V system

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Card 3/3

KORNILOV, I.I., doktor khimicheskikh nauk; POLYAKOVA, R.S., kand.
tekhn. nauk

New metallic materials for chemical machinery manufacture.
Zhur. VKHO 8 no.3:305-317 '63. (MIRA 16:8)

POLYAKOVA, R.S.

Spectrum analysis of stainless steel made by powder metallurgy.
Sbor.trud. TSNIICHM no.31:79-82 '63. (MIRA 16:7)
(Steel, Stainless--Spectra) (Ceramic metals)

POLYAKOVA, R.S.

~~Taxonomic~~ position of common and Caucasian squirrels. Zool.zhur. 41
no.8:1247-1254 Ag '62. (MIRA 15:9)

1. Institute of Zoology of the U.S.S.R. Academy of Sciences,
Leningrad.

(Squirrels)

POLYAKOVA, R.S.

Spectrum analysis of transformed steel. Sbor. trud. TSNIICHM
no.24:112-117 '62. (MIRA 15:6)
(Steel alloys--Spectra)

KORNILOV, I.I.; POLYAKOVA, R.S.

Chemistry of metals. Report No.3: Chemical properties of niobium.
Izv.AN SSSR Otd.khim.nauk no.4:565-573 Ap '62. (MIRA 15:4)

1. Institut metallurgii AN SSSR.
(Niobium alloys)

58804
S/062/62/000/004/003/013
B110/B101

18.11.00

AUTHORS:

Kornilov, I. I., and Polyakova, R. S.

TITLE:

Study in the field of metal chemistry. Communication 3.
Metallochemical properties of niobium

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye
khimicheskikh nauk, no. 4, 1962, 565-573

TEXT: Niobium takes an intermediate position if the elements of the periodic system are arranged according to their electronegativity. 36 metals are electropositive, and nearly 40 are electronegative as compared with Nb, which explains its tendency of forming solid solutions with metals of similar electronegativity, and metallic compounds with elements of different electronegativity: (1) Nb forms a continuous series of solid solutions with metals whose atomic radii do not differ from its by more than 8-10%, and whose electronegativity is similar. (2) The formation of continuous solid solutions requires an isomorphous crystal structure of the components. (3) Limited solid solutions are formed with differences in atomic radii of 8-10 to 15-16% and with slightly varying

Card 1/3

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elements can be well

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KORNILOV, I.I. (Moskva); POLYAKOVA, R.S. (Moskva); Prinimal uchastiye
DAVYDOV, N.I.

Investigating the properties of alloys in the system titanium-
vanadium-molybdenum. Izv. AN SSSR. Otd. tekhn. nauk. Met. i
topl. no.4:76-82 JI-Ag '61. (MIRA 14:8)
(Titanium-vanadium-molybdenum alloys—Metallography)
(Phase rule and equilibrium)

31728
S/081/61/000/021/029/094
B101/B147

55310

AUTHORS: Buyanov, N. V., Polyakova, R. S.

TITLE: Spectrum analysis of impurities and alloy elements in titanium

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 111 - 112, abstract 21D111 (Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, no. 19, 1960, 82 - 89)

TEXT: Three methods for analyzing metallic titanium (I) are described: determination of Ca and Mg in powdered I, determination of Fe, Si, Ni, Al, and Ca in I and Ti alloys, and determination of Cr, W, Mo, Mn, and Al in I. The standards are prepared by mechanical mixing of the components. When analyzing by the first method, 1 g of powdered I is briquetted at 200 atm. CaO and MgO are introduced in the standards. Spectra are excited by a condensed high-voltage spark of an $\text{M}-2$ (IG-2) generator operating with a combined circuit at a capacitance of 0.01 μf and a self-inductance of 0.01 mH. The analysis is performed by photometric interpolation, with a spark gap of 2 mm and carbon electrode (conical frustum),

Card 1/2

Ab-

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1454, 1045, 1496

28873
S/180/61/000/004/011/020
E021/E580

AUTHORS: Kornilov, I.I. and Polyakova, R.S. (Moscow)

TITLE: Study of the properties of titanium-vanadium-molybdenum alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, 1961, No.4, pp 76-82 + 1 plate

TEXT: The Ti-V-Mo system was studied by microstructural and X-ray analysis, and hardness, electrical resistance and high temperature strength measurements. Alloys were studied along quasi-binary sections with constant vanadium contents of 10, 20, 30, 40, 50, 60, 70 and 80 wt.%. The initial materials had purities of Ti - 99.6%, V - 99.2% and Mo - 99.9%. Alloys were prepared by melting in an arc furnace using a non-consumable electrode, and by sintering powdered materials. In the quenched state, the alloys consisted of a homogeneous solid solution based on β -titanium. In the annealed state, Ti rich alloys showed an acicular structure of two phases ($\alpha + \beta$) whereas alloys rich in Mo and V had the polyhedral structure of a solid solution. All alloys with 40-80% V had a homogeneous structure. X-ray analysis

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89362

S/089/61/010/002/013/018
B102/B209

18.1152

AUTHORS:

Kornilov, I. I., Polyakova, R. S.

TITLE:

Hardness of some alloys on niobium basis at high temperatures

PERIODICAL:

Atomnaya energiya, v. 10, n. 2, 1961, 170-172

TEXT: The present "Letter to the Editor" describes investigations of the temperature dependence of the hardness of niobium and of some of its alloys which were carried out after a method described in Ref. 1. The alloys examined had the following composition (in % by weight).

	Nb	Mo	Zr	Si	Al	C
100			-	-	-	-
95		5	-	-	-	-
90		5	5	1	-	-
89		5	5	1	1	-
88		5	5	1	1	0,2
87,8		5	5			

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89362

S/089/61/010/002/013/018
B102/B209

Hardness of some alloys ...

In order to obtain homogeneous samples, the material was re-molten for several times and was finally prepared in the shape of cylinders of $14 \times 5 \text{ mm}^2$. These cylinders were subjected to a heat treatment (10 hours, 1600°C) in a TBB-2 (TVV-2) vacuum furnace. The hardness was measured by means of a BMM-1 (VIM-1) device in vacuo at 20, 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1000°C . The diamond pyramid was impressed for one minute. The results are illustrated in Figs. 2 and 3. Fig. 2 shows the temperature dependence of hardness; curve 1 is referred to pure niobium. At room temperature, the latter has a hardness of 15.8 kg/mm^2 , at 1000°C only 10 kg/mm^2 . The introduction of a second component raises hardness considerably, every new addition increases the hardness a little. Fig. 3 shows a comparison of the strengthening coefficients for 20, 800, and 1000°C . At room temperature the two-component alloy has a strengthening coefficient of 1.5, at 800°C one of 5.0, and at 1000°C one of 10.8. Strengthening increases rapidly with temperature, with rising number of components in the alloy. The strengthening coefficient of the six-component alloy was 2.96 at 20°C and 19.3 at 1000°C . The following conclusions were drawn from the results of

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S/089/61/010/002/013/018
B102/B209

Hardness of some alloys ...

the investigations: 1) Niobium, just as nickel, iron, or cobalt may be strengthened by alloying it; the components may be introduced either by formation of a solid solution or by formation of a supersaturated solid solution and separation of the excess phase. 2) The method of the "hot" hardness (which was used here) allows to characterize in first approximation the hardness of alloys at high temperatures. 3) Multi-component alloys showing high hardness at 1000°C have to be further examined and to be tested for heat resistance by means of standard methods. There are 3 figures, 1 table, and 3 references: 3 Soviet-bloc.

SUBMITTED: June 18, 1960

Legend to Fig. 2: Ordinate: Hardness (kg/mm^2); abscissa: Temperature ($^{\circ}\text{C}$). The figures beside the curves indicate the number of components (cf. Table).
Legend to Fig. 3: Strengthening coefficient of the alloys at three different temperatures; the figures n denote the (n+1)-component alloy.

Card 3/4

POLYAKOVA, K.S.

[illegible]

NEMILOV, V. A.; RUDNITSKIY, A. A.; POLYAKOVA, R. S.

Palladium

Investigation of the system palladium-platinum-rhodium., Izv. Sek. plat. i blag. met.,
no. 26, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1951² Unclassified.

KORNILOV, I.I.; POLYAKOVA, R.S.

Investigating the heat resistance of platinum alloys with rhodium,
iridium, ruthenium, chromium and aluminum by the flexure method.
Trudy Inst.met. no.5:139-144 '60. (MIRA 13:6)
(Heat-resistant alloys)
(Platinum alloys--Testing)
(Flexure)

S/180/60/000/01/011/027

E071/E135

AUTHORS: Kornilov, I.I., and Polyakova, R.S. (Moscow)

TITLE: The Melting Diagram of the Ternary System
Titanium-Vanadium-Molybdenum

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, Nr 1, pp 85-89 (USSR)

ABSTRACT: The melting diagram of the complete ternary system titanium-vanadium-molybdenum was determined. As starting materials for the preparation of alloys, powdered metals of the following purities were used: Ti 99.6%, V 99.2%, and Mo 99.9%. For the determination of temperature of the beginning of melting, specimens were prepared by the ceramometallic method in the form of rectangles 60 x 5 x 5 mm. All alloys were sintered at 1500 °C for 50 hours which was sufficient for vanadium-rich alloys; the remaining alloys were resintered at 1800 °C for 50 hours. For the determination of polymorphic transformations of ternary alloys in solid state, 10-g specimens were prepared by melting in an arc furnace (3 times). The specimens were sealed in quartz tubes and thermally treated by the following procedure: heating to

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S/180/60/000/01/011/027

E071/E135

The Melting Diagram of the Ternary System Titanium-Vanadium-Molybdenum

1100 °C, soaking for 100 hours, slow decrease of the temperature to 800 °C, soaking for 50 hours, decrease in temperature to 500 °C, soaking for 300 hours and cooling with the furnace. The melting temperatures of the alloys were determined by the method described in Ref 15. The composition of alloys and temperatures of the beginning of melting are given in Table 1, polythermal cross-sections of the system in Fig 1, the solidus diagram of the system in Fig 2. Polymorphic transformations of the ternary alloys in solid state were studied by differential thermal analysis (Table 2, Fig 6). Steady changes of melting curves with changes in composition of alloys indicate that they crystallise as continuous solid solutions. Microstructural analysis of hardened specimens confirmed unlimited solubility of the elements in each other above the temperature of polymorphic transformation of titanium. The temperature of polymorphic transformation of ternary alloys decreases with increasing content of molybdenum and vanadium in

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18(6)

SOV/78-4-6-32/44

AUTHORS: Rudnitskiy, A. A., Polyakova, R. S.

TITLE: Investigation of the System Palladium - Ruthenium (Issledovaniye sistemy palladiy-ruteniy)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1404 - 1414 (USSR)

ABSTRACT: The alloy palladium-ruthenium was investigated by the microstructure-, differential-thermal-, and X-ray phase analyses and the thermoelectric force, hardness, and the electric resistance were determined. The phase diagram of the system palladium-ruthenium was constructed on the strength of the investigations and is given in figure 6. The microstructure of the alloy palladium-ruthenium with 15 - 75 percentages by weight ruthenium is given in the figures 1 - 3. The microstructure of the annealed palladium-ruthenium alloys with 5 - 60 percentages by weight ruthenium is given in figure 4(a - e). The lattice parameters of these alloys are summarized in table 1. The radiographs of the alloys with purest palladium and ruthenium in hardened state were taken and are given in figure 5(a - o).

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Investigation of the System Palladium - Ruthenium

SOV/78-4-6-32/44

The radiograph shows that the lines of the solid solution exist on the base of palladium in alloys with 5 - 80 percentages by weight palladium. The results of the thermal analysis of the system palladium-ruthenium are summarized in table 2. The hardening of the alloy is accompanied by a peritectic reaction at 1593°C . The reaction proceeds between the solid and the liquid β -phase on the base of ruthenium under formation of the β -intermediate phase. A second peritectic reaction occurs in the system palladium-ruthenium at 1575° , i.e. between the liquid alloy and the β -phase under formation of a solid solution of palladium. The β -intermediate phase is formed in alloys with 15 - 20 percentages by weight ruthenium. The β -phase suffers an eutectic decomposition under formation of a solid α - and β -phase in alloys with 15 percentages by weight ruthenium at 724° . The temperature of the decomposition of the β -phase is given in table 3. The absolute thermoelectric force of the alloy was determined in dependence on temperature and the results are given in table 4 and figure 4. The isothermal of the absolute thermoelectric force of the system palladium-ruthenium is given in figure 8. The specific electric resistance and temperature coefficient of the alloy hardened at 1400° and 1100°

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Investigation of the System Palladium - Ruthenium

SOV/78-4-6-32/44

as well as of annealed alloys is given in figure 9(a - v). The hardness of the sample was determined after the thermal treatment; results are given in table 6 and in figure 10. The solubility of ruthenium in palladium amounts at room temperature to less than 5 percentages by weight ruthenium. The solubility amounts at 1400° to ~ 12 percentages by weight ruthenium. The solubility of palladium in ruthenium amounts to less than 10 percentages by weight palladium at room temperature. The solubility amounts in the case of a temperature rise up to a peritectic reaction to ~ 40 percentages by weight. There are 10 figures, 6 tables, and 5 references, 4 of which are Soviet.

SUBMITTED: March 14, 1958

Card 3/3

AUTHORS: Kornilov, I. I., Polyakova, R. S. SOV/78-3-11-20/23

TITLE: Investigation of the Annealing Stability of Platinum Alloys With Rhodium, Iridium, Aluminum, and Chromium (Issledovaniye zharostoykosti splavov platiny s rodiyem, iridiyem, alyuminiyem i khromom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2553-2561 (USSR)

ABSTRACT: The annealing stability of platinum, alloyed with rhodium, iridium, aluminum, and chromium is investigated. The loss in weight in the case of a heating of the metals of the platinum group in air at 1300°C is given in figure 1. The loss in weight of platinum in the case of heating in air, in vacuum, in an oxygen atmosphere, and in inert gas is given in figure 2. The investigation of the annealing stability of platinum alloyed with rhodium, iridium, aluminum, and chromium was carried out at 1200°C in air. The results show that rhodium in platinum alloys reduces the loss in weight in the case of annealing. Alloys with 10 - 40 percent by weight iridium represent solid solutions. An alloy with 40% Ir suffers after a 100 hours annealing at 1200°C a loss in weight ten times higher than

Card 1/2

POLYAKOVA, R.S.

Correlation between the size and structure of brain in certain
rodents species and their mode of life and motor activity. Dokl.
AN SSSR 108 no.1:160-163 My '56. (MLRA 9:8)

1. Yestestvenno-nauchnyy institut imeni P.F. Lesgafta Akademii
pedagogicheskikh nauk RSFSR. Predstavleno akademikom L.A. Orbeli.
(Brain) (Rodentia)

POLYAKOVA, R.S. (Leningrad, P-49, ul. Yablochkova, 22/3, kv. 9)

Interspecies differences in the size of the brain and structure of motor analyzer cortical ends in some rodents in relation to their motor activity. Arkh. anat. gist. i embr. 39 no.8:58-64 Ag '60. (MIRA 13:11)

1. Muzei i laboratoriya sravnitel'noy i ekologicheskoy morfologii (zav. - prof. I.D.Strel'nikov) Yestestvenno-nauchnogo instituta imeni P.F.Lesgafta. (BRAIN) (RODENTS)

POLYAKOVA, R.V., mladshiy nauchnyy sotrudnik

Efficient ventilation as an effective measure in protecting
grain against mites. Zashch, rast. ot vred. i bol. 5 no. 7:20-
21 JI '60. (MIRA 16:1)
(Grain--Storage) (Mites--Extermination)

POLYAKOVA, S.

At the Moscow Small Car Plant. Vnesh. torg. 43 no.5:44-47
'63. (MIRA 16:6)

(Moscow—Automobile industry)

POLYAKOVA, S.G.; ZELENETSKAYA, A.A.

Determination of chlorine in the products of polycondensation of
potassium salts of (W) -chlorocarboxylic acids. Trudy VNIISND'
no.6:95-98 '63. (MIRA 17:4)

POLYAKOVA, S.G.

Use of dihydrostreptomycin pantothenate in the treatment of
tuberculosis. Antibiotiki 6 no.9:34-36 S '61. (MIRA 15:2)

1. Kafedra tuberkuleza (zaveduyushchiy - zasluzhennyi deyatel' nauki,
prof. A.Ye. Rabukhin) TSentral'nogo instituta usovershenstvovaniya
vrachey i tuberkuleznoye otdeleniye TSentral'noy klinicheskoy
bol'nitsy imeni N.A.Semashko Ministerstva putey soobshcheniya.
(STREPTOMYCIN) (TUBERCULOSIS)

DOBROKHOTOVA, M.N., kand.med.nauk; MASSEN, N.I.; POLYAKOVA, S.G.; IOFFE,
R.A.; GOL'DSHTEYN, V.D. (Moskva)

Immediate results of combined chemotherapy with the use of cyclo-
serine. Klin.med. no.3:130-136 '62. (MIRA 15:3)

1. Iz kafedry tuberkuleza (zav. - zasluzhennyy deyatel' nauki
prof. A.Ye. Rabukhin) TSentral'nogo instituta usovershenstvovaniya
vrachey, TSentral'noy klinicheskoy bol'nitsy imeni Semashko
Ministerstva putey soobshcheniya (glavnyy vrach A.A Potsubeyenko)
i bol'nitsy "Vysokiye gory" (glavnyy vrach V.G. Samochatov).
(CYCLOSERINE) (CHEMOTHERAPY)

POLYAKOVA, S.G.; BELOV, V.N. [deceased]

Destructive hydrogenation of polyesters of ω -hydroxycarboxylic acids to α, ω -diols. *Khur.ob.khim.* 34 no.2:565-569 F '64.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv.

POLYAKOVA, S.G., inzh.; KHOL'MER, O.M., inzh.; LEBEDEV, I.M., inzh.

Production of guaiacolpropionic ester. Masl.-zhir.prom. 25
no.8:23-24 '59. (MIRA 12:12)

1. Moskovskiy zavod "Sloshnyye efiry."
(Guaiacol) (Propionic acid)

Polyakova, S. G.

7
4
Production of guaiacol propionic acid ester. I. M. Le-
bedev, V. D. Gorchakov, O. M. Kholmer, and S. G. Poly-
akova. U.S.S.R. 103,727, Aug. 25, 1956. Guaiacol and
propionic acid are heated in the presence of acid catalysts.
The reaction is carried out in a solvent, such as PhMe or
other aromatic hydrocarbon. M. Hesch

PM

KHOL'MER, O.M., inzh.; POLYAKOVA, S.G., inzh; LASKINA, Ye.D., kand.khim.nauk

Production of the synthetic isoeugenol from guaiacol. Masl.-zhir.:
prom. 24 no.9:31-33 '58. (MIRA 11:10)

1. Moskovskiy zavod "Slozhnyye efiry" (for Khol'mer, Polyakova).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i
natural'nykh dushistykh veshchestv (for Laskina).
(Isoeugenol) (Guaiacol)

RUDNITSKIY, A.A.; POLYAKOVA, R.S.; TYURIN, I. I.

Polymorphous rhodium conversions. Izv. Sekt. plat. i blag. mat.
no. 29:183-189 '55. (MIRA 8:8)

(Rhodium)

RUDNITSKIY, A.A.; POLYAKOVA, R.S.; TYURIN, I.I.

Study of thermoelectric properties of palladium alloys with
rhodium. Izv.Sekt.plat.i blag.met. no.29:190-196 '55.
(Palladium-rhodium alloys) (MIRA 8:8)

IVANOVA, Z.V., kand. sel'skokhoz. nauk; BLIZNYUK, N.K., kand. khim. nauk;
KOLOMIYETS, A.F.; POLYAKOVA, R.V.

New means for controlling pests in empty granaries. Zashch.
rast. ot vred. i bol. 7 no.9:39 S '62. (MIRA 16:8)

(Granaries--Disinfection)

RADKEVICH, Ye.A.; ARKHANGEL'SKAYA, V.V.; POLYAKOVA, O.P.

Some problems of the genesis and characteristics of the distribution of lead-zinc deposits in eastern Transbaikalia. Trudy IGEM no.83:529-540 '63. (MIRA 16:11)

KHOL'MER, O.M., inzh.; POLYAKOVA, S.G., inzh.

Industrial method for manufacturing synthetic isoeugenol.
Masl.-zhir.prom. 25 no.4:26 '59. (MIRA 12:6)

1. Zavod "Slozhnyye efiry."
(Isoeugenol)

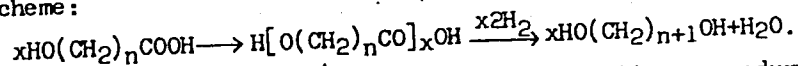
8/063/62/007/005/002/006
A057/A126

AUTHORS: Polyakova, S.G., Belov, V.N.

TITLE: The preparation of α, ω -diols by destructive hydrogenation of polyesters.

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I. Mendeleeva, v. 7, no. 5, 1962, 578 - 579.

TEXT: In the author's institute a method was developed for the preparation of α, ω -diols by destructive hydrogenation of polyesters from corresponding ω -acids according to the scheme:



The process occurs easily with a good yield and the following preparation procedures are presented: α, ω -undecandiol was prepared from the polyester of the ω -hydroxy undecane acid by hydrogenation in the presence of a copper-chromium catalyst at 245 - 250°C and 200 atm; bisphenylurethane with a melting point of 132 - 133°C; and α, ω -pentadecandiol from the polyester of the ω -hydroxy pentadecane acid under the above-mentioned conditions. The compounds obtained showed characteristics

Card 1/2

POLYAKOVA, S.G.

Experience with the therapeutic use of florimycin (viomycin) in tuberculosis. Antibiotiki 8 no.10:920-925 O '63.

(MIRA 17:10)

1. Kafedra tuberkuloza (zav. - prof. A.Ye. Kabukhin) Tsentral'nogo instituta usovershenstvovaniya vrachey i tuberkuleznoye otdeleniye bol'nitsy Ministerstva putey soobshcheniya imeni Semashko.

KRASNOV, Ye.P.; SOKOLOV, L.B.; POLYAKOVA, T.A.

Thermal degradation of polyamides. Part 2: Effect of impurities
on the thermal degradation of polyoxamides. Vysokom. soed. 6
no.7:1244-1250 J1 '64 (MIRA 18:2)

1. Nauchno-issledovatel'skiy institut sinteticheskikh smol,
Vladimir.

KULIKOV, A.I.; POLYAKOVA, S.I.

Chemical method of controlling the quality of seed disinfection.
Zashch. rast. ot vred. i bol. 7 no.8:46-47 Ag '62. (MIRA 15:12)
(Seeds—Disinfection)

POLYAKOVA, Sof'ya Kirillovna, kand. ekon. nauk; AVETISYAN, Ye., red.;
KLIMOVA, T., tekhn. red.

[Without manual work]Bez ruchnogo truda. Moskva, Gospolitizdat,
1962. 54 p. (MIRA 15:9)
(Automation) (Labor and laboring classes)

BURMISTROV, M.P.; NEDLER, V.V.; POLYAKOVA, S.P.

Certain means used for increasing the sensitivity of spectrum analysis during photographic recording of the spectrum. Zav. lab. 30 no.6:694-696 '64 (MIRA 17:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoj promyshlennosti.

VARNAVSKIY, I.N.; SHNEYDER, A.G.; IZOTOV, N.P.; POLYAKOVA, S.V.; ZHIGULIN,
V.I., inzh.; BEDA, N.I., inzh.; RYZHKOV, P.Ya., inzh.;
GAVRILOV, A.M., inzh.

New developments in research. Stal' 23 no.10:940-941 0 '63.
(MIRA 16:11)

POLYAKOVA, T. (g. Minsk)

Apparatus for the production of gases. Khim. v shkole 14 no.1:
87-88 Ja-F '59. (MIRA 12:2)

(Gases)

~~POLYAKOVA~~ T.A.; SOKOLOVA, T.A.; TSARFIN, Ya.A.

Analysis of the products of the catalytic hydrogenation of furan by the method of gas-liquid chromatography. Zav. lab. 29 no.6:664-665 '63. (MIRA 16:6)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol.

(Furan) (Hydrogenation)
(Gas chromatography)

POLYAKOVA, T.A.; SOKOLOVA, T.A.; TSARFIN, Ya.A.

Chromatographic determination of furan and carbon dioxide in
the products of furfurole decarbonylation. Zav.lab. 29 no.1:
18-19 '63. (MIRA 16:2)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh
sool. (Furan) (Carbon dioxide) (Chromatographic analysis)

L 23075-66 EWT(m)/EWP(j)/T WW/RM
ACC NR: AP6010104 (A)

SOURCE CODE: UR/0190/66/008/003/0380/0386

AUTHORS: Krasnov, Ye. P.; Savinov, V. M.; Sokolov, L. B.;
Loginova, V. I.; Belyakov, V. K.; Polyakova, T. A.

ORG: Vladimir Scientific Research Institute of Synthetic Resins
(Vladimirekiy nauchno-issledovatel'skiy Institut sinteticheskikh smol)

TITLE: Thermal degradation of isomeric aromatic polyamides

SOURCE: Vysokomolekulyarnyye soyednieniya, v. 8, no. 3, 1966, 380-386

TOPIC TAGS: polyamide, terephthalic acid, pyrolysis, dicarboxylic acid,
isomer, thermal stability, thermal effect, mass spectrometry, chroma-
tographic analysis, heat resistance

ABSTRACT: A thermal decomposition in vacuo of four isomeric aromatic
polyamides based on phenylenediamines and terephthalic acids has been
investigated. The composition of the gaseous and liquid products of
the polyamides pyrolysis was analyzed by means of mass spectrometry
and gas liquid chromatography. It was shown that the heat resistance
of polyamides greatly depends on the isomeric form of the starting
phenylenediamines and dicarboxylic acids. The polyamide chain is the
most stable with para-isomers and the least stable with metha-isomers.

Card 1/2

UDC: 678.01:54+678.675

L 23075-66

ACC NR: AP6010104

On the basis of kinetic data and the results of the parolysis product analysis, the causes were suggested that for different thermal stabilities of polyamides and for the thermal decomposition of isomeric aromatic polyamides. Orig. art. has: 5 figures and 2 tables. [Based on author's abstract] [NT]

SUB CODE: 07, 11/

SUBM DATE: 01Feb65/
OTH REF: 006/

ORIG REF: 006/

Card

2/2

JLR

DOMBROVSKIY, V.A.; GAGEN-TORN, V.A.; GUTKEVICH, S.M.; POLYAKOVA, T.A.;
SVECHNIKOV, M.A.; SHULOV, O.S.

The 20" reflecting telescope with an astrophotometer for photometric, colorimetric and polarimetric studies. Uch.zap.LGU
no.328:83-94 '65.

(MIRA 18:10)

SATPAYEVA, T.A.; ISAKOVA, R.A.; POLYAKOVA, T.P.

Some physicochemical properties of sulfides, selenides and
metalliferous rhenium. Trudy Inst.geol.nauk AN Kazakh.SSR 7:
318-326 '63. (MIRA 17:9)

POLYAKOVA, T.B., inzh.

Processing and burning of bark in steam boiler furnaces. Bum.prom.
[38] no.7:15-17 J1 '63. (MIRA 16:8)

1. Kotlasskiy kombinat.
(Bark) (Boilers--Firing)

POLYAKOVA, T.B., inzh.

Special characteristics of the maintenance of digesters made
from two-layer steel. Bum. prom. [38] no.6:14-15 Je '63.
(MIRA 16:7)

1. Kotlasskiy kombinat.
(Autoclaves—Maintenance and repair)

POLYAKOVA, T.F.

Study of the vegetative nucleus of the pollen grain of
Echinops sphaerocephalus. TSitologiya no.1:52-60 Ja-F'63.
(MIRA 16:6)

1. Laboratoriya tsitologii kafedry genetiki i selektsii
Leningradskogo universiteta.
(GLOBETHISTLE) (CELL NUCLEI) (POLLEN)

POLYAKOVA, T.P.

Development of the male gametophyte in *Trifolium pratense* L. [with
summary in English]. Vest. LGU 13 no.3:63-76 '58. (MIRA 11:5)
(Clover) (Pollen)

POLYAKOVA, T.F.

Development of male gametes in *Trifolium pratense* L. Report
No.2: Some data on the process of spermatogenesis. Vest.LGU
14 no.9:25-33 '59. (MIRA 12:5)
(CLOVER) (SPERMATOGENESIS IN PLANTS)

17(1,3)

AUTHOR: Polyakova, T. F.

SOV/20-127-2-57/70

TITLE: Investigation of Polysaccharides in the Process of Pollen Grain Formation in Tradescantia

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 438 - 440 (USSR)

ABSTRACT: The new, improved method of determining polysaccharides in organism cells (Refs 1,2) were the reason for several papers dealing with the behaviour of these carbohydrates in individual stages of the vital activity of cells. Only animals were investigated (Refs 3-6). It was the author's object to fill this gap concerning the plants. Tradescantia blossfeldiana and T. fluminensis were used for this purpose. The treatment of the pollen grains of these plants according to the method of references 1 and 2 showed that they contain the polysaccharides as granules in a diffuse state. These granules occur mostly in later development stages. These granules lack in mononuclear pollen grains of the first type, whereas smaller single granules occur in the cytoplasm of the last type (Fig 1). From

Card 1/3

Investigation of Polysaccharides in the Process of
Pollen Grain Formation in Tradescantia

SOV/20-127-2-57/70

the investigation results of the preparations the conclusion was drawn that the granules in pollen grains consist of starch. It is difficult to determine the type of the polysaccharides lying between the pollen grains. It is doubted whether they consist of starch since their cuts cannot be colored with the Lyugol' solution. It is possible that a coloration takes place here, but cannot be observed by the eye since the granules are so tiny. Starch is probably formed in pollen grains at the cost of the extracellular polysaccharides and their transformation products. The diffuse color of the pollen grains in all development stages might be explained by the existence of ptyalin-resistant mucopolysaccharides. The generative cell is somewhat richer than the vegetative one; the vegetative nucleus contains the least quantity of these compounds. The quantity of mucopolysaccharides increases during the formation of the pollen grain. The starch as well as the mucopolysaccharides are apparently the source of the energy used for the germination of the pollen grains of Tradescantia. There are 1 figure and 6 references, 2 of which are Soviet.

Card 2/3

Investigation of Polysaccharides in the Process of
Pollen Grain Formation in Tradescantia

SOV/20-127-2-57/70

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

PRESENTED: February 10, 1959, by V. A. Engel'gardt, Academician

SUBMITTED: February 9, 1959

Card 3/3

POLYAKOVA, T.F.

Development of male and female gametophytes in *Arabidopsis thaliana* (L.) Heynh. Isot. po gen. no.2:125-133 '64. (MIRA 18:4)

POLYAKOVA, T. F.

"Cytochemical and Morphological Investigation of the Nuclei
of Pollen Grains in Certain Angiosperms."

report submitted for the First Conference on the problems of Cyto and
Histochemistry, Moscow, 19-21 Dec 1960.

Cytology Laboratory of Leningrad State University Imeni A. A. Zhdanov.

POLYAKOVA, T.F.; PODSTAVEK, S.Ye.

Behavior of the vegetative nucleus in plants with binuclear
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